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NORTH CAROLINA STATE UNIV RALEIGH ENGINEERING RESEAR--ETC F/G 11/2  
UNIVERSITY CONFERENCE ON CERAMIC SCIENCE: PROCESSING OF CRYSTAL--ETC(U)  
JAN 79 R F DAVIS, H PALMOUR, T M HARE

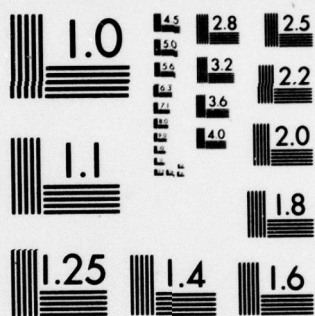
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Final Report,

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concerning the

(6) Fourteenth University Conference

on Ceramic Science:

PROCESSING OF CRYSTALLINE CERAMICS (14th)

held at

North Carolina State University

November 7-9, 1977

Submitted by the

(10) Conference Co-Chairmen

Dr. R. F. Davis,

Dr. Hayne/Palmour, III

Dr. T. M. Hare

Engineering Research Services Division  
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P. O. Box 5995  
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(11)

January, 1979

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## INTRODUCTION

This report summarizes the University's activities in planning, organizing and conducting an international conference concerned with processing of crystalline ceramics, and thereafter, in editing and arranging for commercial publication of its proceedings. The conference, fourteenth in an ongoing but "one-of-a-kind" series presented at North Carolina State University and several other universities in the nation involved in ceramic teaching and research, was held November 7-9, 1977, in the University's new Jane S. McKimmon Center for Continuing Education and Extension.

## PURPOSE

The conference theme, PROCESSING OF CRYSTALLINE CERAMICS, addressed the principal stages of processing with emphasis upon their interactions and interrelationships. Sessions were concerned with (a) scientific aspects of all process steps which must be combined and controlled effectively and sequentially in producing crystalline ceramics (both oxides and non-oxides) and (b) utilization of these principles in developing processes for several classes of advanced ceramics which are considered to be critical to present and future technology.

## DIRECTION

The conference was organized and conducted under the direction of its three co-chairmen, Drs. Davis, Palmour, and Hare. They also served as editors of the Proceedings.

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### SUPPORT

On a cost-sharing basis, the University's School of Engineering made available essential startup funding, as well as substantial amounts of released time over an extended period for the three faculty members who organized and directed the effort. The University also provided some additional secretarial and staff support (See Table I).

In response to University generated proposals, three federal agencies provided timely and indispensable financial support for planning and publicizing, for organizing and conducting, for meeting travel expenses for certain domestic and foreign contributors, and for editing and preparing the manuscripts for publication in the Proceedings (See Table I).

The conference was well attended, and the resultant registration fees were utilized to defray all the registrants' direct costs (conference meals, local bus transportation, prepaid copies of the Proceedings, etc.) as well as a substantial share of the indirect costs of conducting the conference. All transactions with registrants, caterers, etc. were coordinated and accounted for by the University's Division of Continuing Education (See Table II).

Tables I and II provide cost breakdowns for all the expense components involved. They show the total cost of the conference to have been \$62,742.24. Of this amount, \$15,063.00 (24%) was provided by the three supporting agencies, \$14,250.22 (22.7%) by the registrants, and \$33,439.02 (53.3%) by the University's School of Engineering.

### ATTENDANCE

More than 200 persons participated in conference activities including our own key University administrators, faculty members and students. Approximately 60.9 of those attending represented industry; 28.8% universities, and 10.3% government and nonprofit laboratories. Participants were drawn from the United States and abroad, including Russia (2), Yugoslavia (1), England (1), Japan (1), France (1), Germany (3), Australia (1), and the Netherlands (1) (See attached registration lists).

### ADVISORY COMMITTEE

In the opinion of the co-chairmen, the success of the conference is due in no small part to early and important inputs by a 16 member Advisory Committee of distinguished ceramic scientists, educators, and engineers, all of whom have contributed to knowledge of ceramic processing and many of whom have also had prior experience in organized major conferences of this type. Most were also present for the conference itself, taking active roles as speakers, session chairmen, etc. Members of the Advisory Committee are individually identified in the published Proceedings, as they earlier had been in the press releases, preliminary announcements, and complete conference program.

### CONFERENCE STAFF

The conference staff was made up of a number of faculty, staff and student members whose mostly behind-the-scenes efforts were critical to the environment, the ambiance, the timing, and the overall success of the conference. In the published Proceedings, the conference co-chairmen have identified these individuals and made special note of their valuable contributions.



## AUTHORS

The most important factor governing the success of such an undertaking resides in the stature and diversity (the "mix") of the authors chosen, and in the quality, appropriateness, and timeliness of their individual presentations. Both good luck in timing and theme selection and very sound advice about topics, speakers, etc., from the Advisory Committee appear to have prevailed in this instance. The 54 papers included in the published Proceedings were generated by a total of 105 contributing authors and coauthors. Collectively, they represent most of the major academic and research centers known to be actively involved in the science of ceramic processing. Many of them are senior scientists and educators, already internationally known for outstanding contributions in their respective fields or subfields but the co-chairmen were also pleased with the opportunities this conference made available to give significant exposure before a discriminating audience to a number of extremely promising younger authors and coauthors. All authors and coauthors are identified in the complete conference program, and in the published Proceedings.

In an undertaking of this magnitude, some shrinkage of papers and authors is almost inevitable, but in this instance, was kept to quite a low level. After the complete program was printed, two papers were withdrawn and one was added. At the time of the conference, one author was ill and unable to present his paper, and one other was unexpectedly unable to attend, but arranged for a colleague (author of another paper) to make his verbal presentation.

Of the 56 papers finally scheduled for presentation, 55 were actually presented at the conference, and 54 of them are included in the published Proceedings. Despite repeated followups by telephone and letter, two

manuscripts could not be obtained in time for publication. In each case, delay was due to an author's serious illness during or after the conference.

#### PUBLICATION

The edited Proceedings of the conference were published by Plenum Publishing Corporation, New York and London, late in 1978. Edited by the three conference co-chairmen, the 682 + xiv pp. work contains 54 papers, some 288 figures, 61 tables, 890 references, a list of contributors, and an extensive subject index. Forty-six percent of the papers include written discussion. The work is identified as:

Hayne Palmour III, R. F. Davis, and T. M. Hare, Eds., PROCESSING OF CRYSTALLINE CERAMICS Materials Science Research, Vol. 11, Plenum Press, New York, 1978.

Plenum has recently advertised this new volume for world wide commercial distribution at \$49.50 per copy (prepublication price).

#### DISTRIBUTION

Under two separate agreements, Plenum is providing the University with copies of the Proceedings to meet all conference needs. Under the publishing agreement, a total of 61 gratis copies have been furnished to the Editors (3 each) and to each principal author. Under a separate special prepublication purchase agreement with Plenum, the University's Continuing Education Division has also purchased 183 additional copies at reduced cost. Using address labels furnished by the University, Plenum is distributing nonduplicating copies to coauthors, Advisory Committee members, Session Chairmen, and other qualified registrants.



The bulk shipped balance are being distributed by the co-chairmen to sponsors, to university administrators, etc.

By arrangement with the editors, Plenum has also agreed to furnish complimentary copies to 21 outstanding ceramic educators, researchers, editors, etc., around the world who were not themselves directly involved with the conference. Recipients of these copies are in the United States (3), England (2), France (1), Germany (3), Italy (1), Yugoslavia (2), Russia (2), Australia (1), Japan (3), and the Peoples' Republic of China (3).

TABLE I. SUMMARY OF COSTS AND SOURCES FOR PLANNING, ORGANIZING AND  
PUBLICIZING THE CONFERENCE, AND FOR EDITING THE PROCEEDINGS

ERSD 609					
Office of the Dean School of Engineering N. C. S. U.		Trust 17390 U.S. Energy Research & Development Admin. (DOE)	Trust 17377 U.S. Office of Naval Research	Trust 17399 U.S. Army Research Office	Totals
Staff & Student Salaries	844.82	719.70	973.49	187.50	2,725.51
Supplies	97.60*	449.75	287.48	4.76	839.59
Postage & Telephone	381.10*	120.33	103.48	457.09	1,062.00
Travel					
Local	-0-	-0-	1.13	7.50	8.63
Domestic (5 Contributors)	-0-	1,387.48	-0-	-0-	1,387.48
Foreign (6 Contributors)	-0-	-0-	2,765.06	4,282.69	7,047.75
Printing	-0-	1,746.57	551.45	24.30	2,322.32
General Expense	174.83*	352.33	-0-	-0-	527.16
Staff Fringe Benefits	49.43	33.10	53.66	2.00	138.19
Staff & Student Overhead @ 29.42% of Salary & Wages	248.54	211.74	286.38	55.16	801.82
Subtotal, Federal Support	-0-	5,021.00	5,021.00	5,021.00	15,063.00
University Cost Sharing					
Faculty Salaries	11,602.60	3,790.63	3,721.12	2,709.13	21,823.48
Faculty Fringe	1,972.44	644.40	483.74	352.18	3,452.76
Faculty Overhead	3,413.48	1,115.20	1,094.75	797.03	6,420.46
Subtotal, University Support	18,784.84	5,550.23	5,299.61	3,858.34	33,439.02
Less reimbursed expenses*	653.53			Gross	48,556.02
NET TOTALS	18,131.31	10,571.23	10,320.61	8,879.34	653.53 47,902.49

\* Startup expense items were subsequently reimbursed by Division of Continuing Education from Conference Registration Fees.



TABLE II SUMMARY OF INCOME AND EXPENSES FROM REGISTRATION FEES,  
DIVISION OF CONTINUING EDUCATION

I. Income from Registration Fees		\$14,974.00
141 registrants paid registration fees, and 46 presenters of papers, representatives of sponsoring agencies, conference staff members and distinguished guests were registered <u>gratis</u> . In addition, some 15 key members of the University administration attended one or more of the conference reception, lunch, or dinner functions.		
II. Expenses		
1. Program Planning and Direction		
a. Honoraria (3)	1,200.00	
b. Lunch, Planning Committee	10.40	
c. Telephone, Postage	431.10*	
d. Duplication	174.83*	
e. Supplies	<u>97.60*</u>	
		1,913.93
2. Conducting the Conference		
Division of Continuing Education		
a. Management, Space and Facilities	1,400.00	
b. Food and Refreshment		
1. Coffee Breaks (6)	741.25	
2. Luncheons (3)	2,033.00	
3. Conference Dinner	1,887.27	
4. Conference Reception	<u>746.11</u>	
		6,807.63
3. Registration Packets and Copies of Published Proceedings		
a. Registration Packets	360.00	
b. Copies of Published Proceedings	<u>4,948.32</u>	
		5,308.32
4. Transportation		
Shuttle Bus Service	<u>336.71</u>	
		336.71
5. Miscellaneous Items		
a. Plant Rental	106.98	
b. Staple guns, tacks, tape, etc.	50.00	
c. General expenses	<u>100.00</u>	
		256.98
5. Postage		
Response letters to registrants	<u>28.50</u>	
		28.50
Total, Expenses		<u>14,652.07</u> 14,652.07
III. Balance (Reserved for future use in arranging a related ceramic conference)		
		321.93

\*Includes reimbursement to ERSD 609 for startup expense items; see asterisks, Table I.

THE FOURTEENTH UNIVERSITY CONFERENCE ON CERAMIC SCIENCE  
"PROCESSING OF CRYSTALLINE CERAMICS"  
NOVEMBER 7 - 9, 1977

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"PROCESSING OF CRYSTALLINE CERAMICS"  
NOVEMBER 7 - 9, 1977

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